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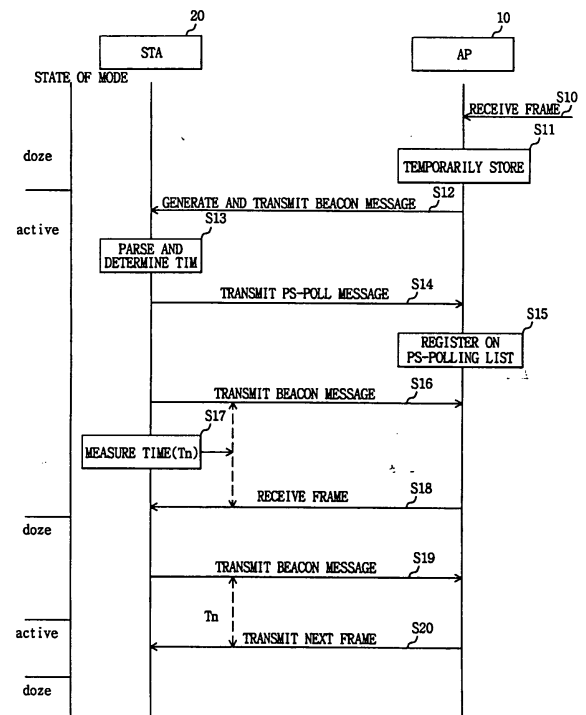
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(54) **Apparatus and method for saving power in wireless local area network**

(57) A method and apparatus includes: at least one AP (Access Point) arranged to set and transmit a bit of a beacon message corresponding to a station for exchanging traffic, to register the station on a PS-polling list upon an acknowledgment of the beacon message being received, to assign a predetermined time slot to the station, and to transmit the traffic during the time slot, when at least one piece of traffic is exchanged for wireless voice communication; and at least one station adapted to be awakened into an active mode to parse the received beacon message, to calculate the assigned time slot when a bit of the station is set, and to awaken into the active mode during the assigned time slot to exchange the traffic, when the beacon message has been received from the AP upon being in a doze mode.

**FIG. 7**





## EUROPEAN SEARCH REPORT

Application Number  
EP 04 01 9396

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	US 2003/031140 A1 (OPRESCU-SURCOBE VALENTIN [US] ET AL) 13 February 2003 (2003-02-13) * the whole document *	1-3,6,8,10	INV. H04L12/28
A	US 6 421 540 B1 (GILHOUSEN KLEIN S [US] ET AL) 16 July 2002 (2002-07-16) * the whole document *	1-3,6,8,10	
A	WO 01/60104 A1 (QUALCOMM INC [US]) 16 August 2001 (2001-08-16) * the whole document *	1-3,6,8,10	
			TECHNICAL FIELDS SEARCHED (IPC)
			H04L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 6 April 2010	Examiner Behringer, Lutz
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 01 9396

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The members are as contained in the European Patent Office EDP file on  
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06-04-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2003031140 A1	13-02-2003	CN	1541492 A	27-10-2004
		JP	3955568 B2	08-08-2007
		JP	2005526415 T	02-09-2005
		WO	03015435 A1	20-02-2003
-----				
US 6421540 B1	16-07-2002	NONE		
-----				
WO 0160104 A1	16-08-2001	AT	383043 T	15-01-2008
		AT	427634 T	15-04-2009
		AU	3674901 A	20-08-2001
		BR	0108218 A	10-02-2004
		CN	1449637 A	15-10-2003
		DE	60132172 T2	11-12-2008
		EP	1254579 A1	06-11-2002
		EP	2031930 A1	04-03-2009
		ES	2323391 T3	14-07-2009
		HK	1056811 A1	21-07-2006
		HK	1115262 A1	24-07-2009
		JP	2003536286 T	02-12-2003
		TW	560202 B	01-11-2003
		US	6728300 B1	27-04-2004
		US	2004091022 A1	13-05-2004
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